

REMARKS

Claims 1 through 24 and 28 through 47 are pending in the present application. Claims 25 through 27 are canceled by the present amendment, and claims 28 through 47 are newly added.

Applicants note with appreciation that in section 18 of the Office Action, the Examiner indicates that claims 3, 4 and 11 would be allowable if rewritten in independent form. Applicants rewrote claims 3 and 11 as suggested by the Examiner. Claim 4 depends from claim 3. Thus, claims 3, 4 and 11 are presently in condition for allowance.

In section 3 of the Office Action, the Examiner noted that in an amendment dated November 14, 2001, Applicants amended the specification to include a statement that the present application is a continuation-in-part of U.S. Application No. 09/503,640, and that the Office has not yet recognized Applicants' claim to priority of the 09/503,640 application. The Office Action then indicates that Applicants should delete the aforementioned statement from the specification. Applicants respectfully submit that the present application is entitled to the priorities as indicated by the aforementioned statement. Concurrent with the submission of the present document, Applicants are submitting (a) evidence of Applicants' timely claim to priority and (b) a request for a corrected filing receipt to recognize the claims to priority.

Section 4 of the Office Action notes that drawings filed on August 1, 2001 are objected to by the Office draftsman. Applicants intend to file a set of formal drawings no later than payment of the issue fee.

Section 6 of the Office Action objects to the disclosure because of two informalities. Applicants amended the specification as suggested by the Examiner. Withdrawal of the objection to the disclosure is respectfully requested.

Section 7 of the Office Action objects to the specification as failing to provide a proper basis for the features of claim 21. Applicants amended the specification at page 8 to provide support for the features of claim 21. Withdrawal of the objection to the specification is respectfully solicited.

In section 8 of the Office Action, the Examiner is suggesting several corrections to claims 6, 10, 11 and 27. Regarding claims 6, Applicants amended claim 1 to provide an antecedent basis for "the image plane." Applicants amended claim 10 as suggested by the Examiner. Applicants rewrote claim 11 in independent form, and properly introduced "an image plane." Applicants canceled claim 27.

Sections 10 through 12 of the Office Action objected to claims 25 through 27. Applicants canceled claims 25 through 27. Withdrawal of the objection is respectfully requested.

In section 14 of the Office Action, claims 1, 6, 7, 9, 10, 14, 17 through 20, 22 through 24, 26 and 27 are rejected under 35 U.S.C. 102(a) as being anticipated by Japanese document no. 2000-100694 to Takahashi (herein after "the Takahashi document"). Claims 26 and 27 are canceled, and so, the rejection is moot with respect to claims 26 and 27. Of the remaining claims in this rejection, only one is independent, namely claim 1.

Claim 1 provides for a microlithography projection objective. The objective includes, inter alia, a first (S1), a second (S2), a third (S3), a fourth (S4), a fifth (S5) and a sixth mirror (S6). Each of these mirrors has an off-axis segment. Applicants amended claim 1 to clarify that the diameter of the off-axis segment of the first, second, third, fourth, fifth and sixth mirrors as a function of the numerical aperture NA of the objective at the exit pupil is less than or equal to the product (1200 mm * NA), and that the numerical aperture is greater than 0.2.

Applicants have not found any description in the Takahashi document of any particular relationship between a diameter of an off-axis segment of a mirror and a numerical aperture, much less that the diameter of the off-axis segment of the mirrors is less than or equal to the product (1200 mm * NA). Furthermore, page 6 of the Office Action notes that the Takahashi document discloses a numerical aperture of 0.14. Such an express description is inconsistent with a numerical aperture being greater than 0.2. Consequently, the Takahashi et al. document does not disclose the diameter of the off-axis segment of the mirrors being $\leq (1200 \text{ mm} * \text{NA})$, where NA is greater than 0.2, as recited in claim 1. Thus, the Takahashi document does not anticipate claim 1.

Claims 6, 7, 9, 10, 14, 17 through 20, and 22 through 24 depend from claim 1. By virtue of this dependence, claims 6, 7, 9, 10, 14, 17 through 20, and 22 through 24 are also novel over the Takahashi document. As mentioned above, claims 26 and 27 are canceled.

Applicants respectfully request reconsideration and withdrawal of the section 102(a) rejection of claims 6, 7, 9, 10, 14, 17 through 20, 22 through 24, 26 and 27.

In section 16 of the Office Action, claims 1, 2, 5 through 10, 13 through 16, 18 through 24, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,686,728 to Shafer (hereinafter "the Shafer patent") in view of the Takahashi document.

Page 8 of the Office Action recognizes that the Shafer patent does not disclose the relationship between the diameter of the mirrors and the numerical aperture, and so relies on the Takahashi document. However, as explained above, the Takahashi document does not disclose the diameter of the off-axis segment of the mirrors being $\leq (1200 \text{ mm} * \text{NA})$, where NA is greater than 0.2, as recited in claim 1. Consequently, the Shafer patent and the Takahashi document, whether considered individually or in combination with one another, neither disclose nor suggest all of the elements of claim 1. Thus, claim 1 is patentable over the cited combination of the Shafer patent and the Takahashi document.

Claims 2, 5 through 10, 13 through 16, and 18 through 24 depend from claim 1, and thus, are also patentable over the cited combination of the Shafer patent and the Takahashi document. Claims 26 and 27 are canceled.

Applicants respectfully request reconsideration and withdrawal of the section 103(a) rejection of claims 1, 2, 5 through 10, 13 through 16, 18 through 24, 26 and 27 as being unpatentable over the Shafer patent in view of the Takahashi document.

In section 17 of the Office Action, claims 1, 12 through 14, and 17 through 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,033,079 to Hudyma (hereinafter “the Hudyma patent”) in view of the Takahashi document.

Page 10 of the Office Action recognizes that the Hudyma patent does not disclose the relationship between the diameter of the mirrors and the numerical aperture, and so relies on the Takahashi document. However, as explained above, the Takahashi document does not disclose the diameter of the off-axis segment of the mirrors being $\leq (1200 \text{ mm} * \text{NA})$, where NA is greater than 0.2, as recited in claim 1. Consequently, the Hudyma patent and the Takahashi document, whether considered individually or in combination with one another, neither disclose nor suggest all of the elements of claim 1. Thus, claim 1 is patentable over the cited combination of the Hudyma patent and the Takahashi document.

Claims 12 through 14 and 17 through 24 depend from claim 1, and so, are also patentable over the cited combination of the Hudyma patent and the Takahashi document.

Applicants respectfully request reconsideration and withdrawal of the section 103(a) rejection of claims 1, 12 through 14, and 17 through 24 as being unpatentable over the Hudyma patent in view of the Takahashi document.

Applicants amended claim 1 to clarify a feature that is neither described nor suggested by the cited references. Claim 2 is amended for consistency with claim 1. Claims 10 and 21 are amended to correct errors in sentence structure.

Newly added claims 28 through 47 depend from allowable claim 3. Accordingly, Applicants respectfully request an allowance of claims 28 through 47.

In view of the foregoing, Applicants respectfully submit that all claims presented in this application patentably distinguish over the prior art. Accordingly, Applicants respectfully request favorable consideration and that this application be passed to allowance.

Respectfully submitted,

December 8, 2003

Date

Charles N.J. Ruggiero

Charles N.J. Ruggiero, Esq.

Reg. No. 28,428

Attorney for the Applicants

Ohlandt, Greeley, Ruggiero & Perle, L.L.P.

One Landmark Square, 10th Floor

Stamford, CT 06901-2682

Tel: 203-327-4500

Fax: 203-327-6401